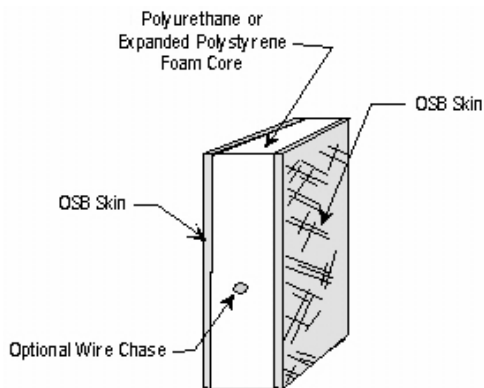


BASIC SIPS

(STRUCTURAL INSULATED PANELS)

A Factsheet from Austin Energy's Green Building Program

Structural Insulated Panels (SIPs) can be substituted for wood framed walls, floors, and roof/ceilings when building an energy-conscious home.



Structural Insulated Panels (SIPs) are relatively new to the building marketplace and are growing in acceptance with builders, developers, and homeowners. SIPs currently represent less than 1 percent of all residential/light construction (8,000 homes per year), with 5 percent anticipated growth according to the Structural Insulated Panel Association (SIPA) the product's trade association. As a direct substitute for wood framing and infill insulation, SIPs offer considerable energy and resource conserving advantages. A SIP is a panel with a core of insulation (either the white expanded polystyrene or the yellow-orange polyurethane) sandwiched between various skins of metal, drywall, or oriented strand board (OSB).

As blank slabs or pre-engineered with door and window openings cut out, SIPs arrive at the site, are unloaded, uprighted, fastened, and the framing stage is complete. Speedy installation is not the only advantage to SIP construction, though. They also promote excellent energy efficiency due to their continuous foam cores, and because they can come in lengths up to 28 feet, fewer joints means fewer points of air entry, further reducing energy bills. SIPs typically come in 8-foot heights and can be stacked up to three stories high without additional bracing requirements. Cathedral ceilings and exposed beam details can be simplified by using SIP construction as one roof panel can form structure, insulation, sheathing, and sheet rock attachment. SIPs can be clad with most conventional sidings, and they work within standard wood framing dimensions which makes it easy on your contractor. In addition, buildings using SIPs are stronger than stick-built structures. They can withstand winds in excess of 160 mph, ground movement, freeze and thaw movement, and seismic class 4 standards.

When choosing a SIP, look for:

- ❖ **Non ozone-depleting foam cores**--All expanded polystyrene foams are now produced without CFCs/HCFs, polyurethane foams may or may not use CFCs/HCFs.
- ❖ **Low formaldehyde content skins**--Formaldehyde is a necessary ingredient in engineered wood products, but new adhesives retain formaldehyde rather than letting it leach off into indoor air.
- ❖ **Engineered testing of the panels for any building application**--Different manufacturers have different tests which certify different structural aspects of their products. You want a panel which will do all that you need it to and has the engineered testing to prove it to you and local building officials.
- ❖ **Excellent product support**--Is the manufacturer willing to come out to your site and help train you or your contractor?
- ❖ **Make sure SIPs match your project's priorities**--If your project's priorities are quick dry-in time, tight energy-efficient construction, wood frame modularity, and cost (SIPs are competitive to stick framing if installed with unskilled labor in Austin), SIPs are a good product choice.

When planning a SIP building, be sure to include exhaust fans for the removal of bathroom, laundry, and kitchen odors and humidity. The tight construction afforded by SIPs can create indoor humidity above recommended levels, which can be remedied with fans to remove unwanted indoor air pollutants at their source.

MATERIALS

Resources

Trade Associations:

APA-The Engineered Wood Association
P.O. Box 11700
Tacoma, WA 98411
(253) 565-6600 (ask for publications desk)
www.apawood.org

Structural Insulated Panel Association (SIPA)
P.O. Box 1699
Gig Harbor, WA 98335
Phone: (253) 858-7472
Fax: (253) 858-0272
www.sips.org
E-mail: staff@sips.org

Publications:

Foam Core Panels and Building Systems
Cutter Information Corp.
37 Broadway
Arlington, MA 02174-5539
outside North America
Phone: 1 (800) 964-5118
Fax: 1 (800) 888-1816
E-mail: Carolyn Licata at clicata@cutter.com
<http://cutter.com/energy/reports/index.html>

Other trade publications have published articles on SIPs in the last year, including Architecture Magazine, Journal of Light Construction, and Environmental Building News

principles, practice, and product directory available

Regional Manufacturers/Distributors/Installers:

Chapman Building Systems
5275 Highway 27 East
Kerrville, TX 78028
(830) 792-5050
www.sips-chapman.com
full-service panel fabricator, also build modular homes

The Panel Factory
326 N. Bowen Rd.
Arlington, TX 76012
(817) 277-6742
www.panelfactory.com
smaller scale panel fabricator (additions)

Futurebilt Structural Insulated Panels
A-104 Plaza del Sol
Wimberly, TX 78676
(800) 487-5722
full-service panel fabricator

Innovative Building Panels
PO Box 3187
Lubbock, TX 79452
(806) 744-4868
full-service panel fabricator

Korwall Industries, Inc
326 N. Bowen Rd.
Arlington, TX 76012
(817) 277-6741
full-service panel fabricator

Creative Panel Solutions
4122-B Billy Mitchell Dr.
Addison, TX 75001
(972) 980-4747
www.creativepanel.com
full-service panel fabricator

Structall Building Systems
3417 Steen, Ste. A
San Antonio, TX 78219
(800) 880-4198
full-service panel manufacturer , also build modular homes, only one type of specialty panel made here in Texas, the rest made in Florida

This list does not constitute an endorsement or recommendation by the City of Austin, Austin Energy or the Green Building Program. Please check references thoroughly before employing the services of any contractor.